Comments on the Oxford classification of IgA nephropathy

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We congratulate the authors of the recent articles on the Oxford classification of IgA nephropathy (IgAN) on their rigorous scientific approach.[1,2] Our preliminary results in a study of IgAN broadly support their findings. However we would like to make two additional points.

First, the rubric segmental glomerulosclerosis in the Oxford classification actually comprises at least two different lesions. First is focal segmental glomerulosclerosis (FSGS), a separate category in the Haas classification of IgAN.[3] Second are the sequelae of segmental proliferative and necrotic lesions. Segmental lesions occurred in 66% of our patients. Of these, 47% had visible intracapillary hyalinosis lesions and, in our opinion, represent definite FSGS. The other 53% had only capsular adhesions and epithelial changes, and thus were indeterminate, possibly representing FSGS but also possibly other pathological processes. Those with frank FSGS had a poor prognosis, with 50% ending on dialysis, compared with 4.1% of patients without segmental lesions ($P = 0.00001$). Those with indeterminate segmental lesions had a course intermediate between the other two groups, with 36.1% ending on dialysis.

Another lesion not included in the Oxford classification is thrombotic microangiopathy (TMA). TMA has been described in IgAN, usually associated with severe/malignant hypertension.[4] TMA was present in 53% of our patients, including 26% of normotensive patients. It has a poor prognosis, with 47% of patients ending on dialysis, compared with 9% of patients without TMA ($P = 0.000002$). Thus, TMA must be considered with care in evaluating biopsies with IgAN, and should perhaps be added to the Oxford classification.

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2. Cattran DC, Coppo R, Cook HT *et al.* The Oxford classification of IgA nephropathy: rationale, clinicopathologic correlations, and classification. *Kidney Int* 2009; **76**: 534–545.
3. Haas M. IgA Nephropathy and Henoch-Schönlein purpura nephritis. In: Jennette JC, Olson JL, Schwartz MM, *et al.* (eds). *Heptinstall's Pathology of the Kidney*, 6th edn. Lippincott Williams & Wilkins: Philadelphia, 2007 pp 423–486.
4. Chang A, Kowalewska J, Smith KD *et al.* A clinicopathologic study of thrombotic microangiopathy in the setting of IgA nephropathy. *Clin Nephrol* 2006; **66**: 397–404.

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Response to 'Comments on the Oxford classification of IgA nephropathy'

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We thank Dr Hill and colleagues for their comments.[1] It is likely that the Oxford classification will evolve, as evidence for a clinical impact of other histological lesions emerges from validation studies in other patient groups. Thrombotic microangiopathy was a rare lesion in the cohort used for developing the Oxford classification, and as a result was not included in the final formulation.

The nature and pathogenesis of segmental sclerosing lesions in immunoglobulin A (IgA) nephropathy are yet to be determined. We agree that focal segmental glomerulosclerosis (FSGS) may arise through at least two routes, as a result of podocyte injury or of fibrosis within proliferating and necrotizing lesions. The mechanism of podocyte injury in IgA nephropathy is unclear; although it is suggested that FSGS and IgA deposition are not directly related,[2] the frequent concurrence of these lesions would suggest a pathogenetic link. In primary FSGS, the presence of hyalinosis does not predict prognosis.[3] However, the observation that intracapillary hyalinosis identifies a poor prognostic subgroup in segmental sclerosis associated with IgA nephropathy, and possibly a different pathogenesis to those lesions without hyalinosis, deserves further study. It is something that could be analyzed in our group of patients. If confirmed, and importantly if the subclassification of FSGS lesions is demonstrated to be reproducible, then this may potentially be incorporated into future modifications of the Oxford classification.

1. Hill GS, Nochy D, El Karoui K. Comments on the Oxford classification of IgA nephropathy. *Kidney Int* 2009; **76**: 1207.
2. Weber CL, Rose CL, Magil AB. Focal segmental glomerulosclerosis in mild IgA nephropathy: a clinical-pathologic study. *Nephrol Dial Transplant* 2009; **24**: 483–488.
3. Schwartz MM, Korbet SM, Rydell J *et al.* Primary focal segmental glomerular sclerosis in adults: prognostic value of histologic variants. *Am J Kidney Dis* 1995; **25**: 845–852.

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How to interpret the eGFR in patients with small body surface area

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To the Editor: We agreed with Freedberg's[1] article, which proposed the importance of muscle mass in evaluating each